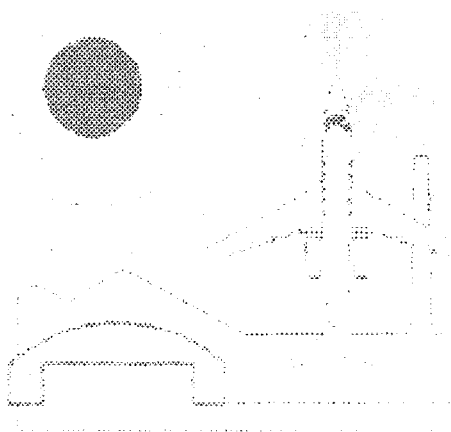


## **SECTION 8: ENVIRONMENTAL FACTORS**



# BISBEE-DOUGLAS INTERNATIONAL AIRPORT

Douglas / Cochise County, Arizona

## AIRPORT MASTER PLAN - 1997

### SECTION 8: ENVIRONMENTAL FACTORS

---

#### INTRODUCTION: THE ENVIRONMENTAL REVIEW PROCESS

The National Environmental Policy Act (NEPA) requires that all new airport construction be evaluated in terms of possible environmental impacts. Thus, it is important in the Master Planning process to identify the environmental issues which may need to be addressed prior to airport development.

Federal actions fall into one of three categories:

- Categorical Exclusions;
- Actions normally requiring an Environmental Assessment (EA); and
- Actions normally requiring an Environmental Impact Statement (EIS).

In general terms, actions categorically excluded are those actions which are found to have no potential for significant environmental impact. The following items would normally be categorically excluded unless extraordinary circumstances are identified by the FAA which would create a requirement for an Environmental Assessment. "Extraordinary circumstances" include opposition by federal, state or local government agencies, or by a significant number of persons who would be affected by the action, as well as any obvious circumstance which may indicate the potential for environmental impact.

- Runway reconstruction or repair work where the runway's alignment, length, capacity and classification are not affected;
- Construction or repair of taxiways, aprons or loading ramps;
- Installation or upgrade of airfield lighting systems, including runway and taxiway edge lighting systems, runway end identifier lights (REIL), visual approach aids (VASI, PAPI),

- rotating beacons, and electrical distribution systems;
- Installation of miscellaneous items including segmented circles, wind or landing direction indicators, weather stations, and fencing;
- Construction or expansion of buildings and passenger handling facilities, including general aviation arrival/departure building and hangars;
- Construction, relocation or repair of entrance and service roads;
- Obstruction removal on airport property;
- Erosion control actions with no off-airport impacts;
- Landscaping or construction of airport jet blast and/or noise mitigation barriers, as well as projects to carry out noise compatibility programs;
- Land acquisitions and/or relocations associated with any of the above listed items.

Federal release of airport land, removal of a displaced threshold, airspace determinations, airport planning projects, noise compatibility programs, acquisition of security equipment required under 14 CFR Part 107 or safety equipment required under 14 CFR Part 139, acquisition of snow removal equipment, airport certifications, and preliminary or tentative engineering or design actions are also categorically excluded.

The purpose of an Environmental Assessment is to determine whether or not an action will have one or more significant impacts. Actions normally requiring an Environmental Assessment are those which have been found by experience to sometimes have significant environmental impacts. Included actions are:

- Airport location or relocation;
- Construction of a new runway;
- Major runway extension;
- Runway strengthening which would result in a 1.5 Ldn or greater increase in noise over any noise sensitive area located within the 65 Ldn noise exposure contour;
- Entrance or service road development which would adversely affect the capacity of other public roads.
- Land acquisition associated with any of the above-listed items, or land acquisitions which result in relocation of residential units when there is evidence of insufficient replacement dwellings or major disruption of business activities;

- Land acquisition which involves land covered under Section 4(f) of the DOT Act (public owned land from a public park, recreation area or wildlife or waterfowl refuge, or a historical site of local state or national significance);
- Establishment or relocation of an instrument landing system, or an approach lighting system;
- Any action which would effect property included (or eligible for inclusion) on the National Register of Historic Places, property of state, local, or national historical, architectural, archeological, or cultural significance;
- Land acquisitions which involve significant conversion of farmland

Actions determined to have significant impacts during preparation of the Environmental Assessment will be required to be addressed by an Environmental Impact Statement (EIS).

The preparation of the Environmental Assessment is the responsibility of the airport sponsor. Based upon the results of the Environmental Assessment, the FAA would either prepare an Environmental Impact Statement (EIS) or would issue a "Finding OF No Significant Impact" (FONSI).

Federal regulations require that a sponsor seeking a grant for airport improvements must prepare and submit an Airport Layout Plan, showing detailed information regarding the existing and proposed facility, along with an Environmental Assessment prepared in accordance with FAA Order 5050.4, if an assessment is required.

There are two proposed projects which are not "categorically excluded", and which will require preparation of an Environmental Assessment and issuance of a FONSI. These are: the reconstruction of Runway 3-21 in the Immediate Term, since approximately 2,750 feet will be new runway; and the extension of Runway 17-35 in the Ultimate Term.

PROBABLE  
ENVIRONMENTAL  
IMPACTS

The areas of potential impact which must be addressed in an Environmental Assessment, per FAA Order 5050.4 are as follows:

- A. Social Impacts
- B. Induced Socio-economic Impacts
- C. Air Quality
- D. Water Quality

- E. Impacts upon Public Recreation Areas and Historical/Cultural Resources
- F. Biotic Communities - Flora and Fauna
- G. Endangered and Threatened Species of Flora and Fauna
- H. Wetlands
- I. Floodplains
- J. Coastal Zone Management Programs and Coastal Barriers
- K. Wild and Scenic Rivers
- L. Conversion of Farmland
- M. Energy Supply and Natural Resources
- N. Light Emissions
- O. Solid Waste Impacts
- P. Construction Impacts
- Q. Noise
- R. Compatible Land Use

These areas are discussed in the following narrative.

In May, 1997, in order to identify possible areas of environmental impact associated with the proposed program, a number of public agencies were contacted, provided with review materials, and asked to provide input regarding their areas of jurisdiction. The contacted agencies are:

- Arizona Department of Environmental Quality, Office of Air Quality (comments received 6/17/97)
- Arizona Department of Environmental Quality, Office of Water Quality (comments received 6/16/97 & 6/17/97)
- U.S. Army Corps of Engineers (comments received 5/20/97)
- Federal Aviation Administration, Western-Pacific Region, Airport Division, Planning Section
- Arizona State Parks Department, Historical, Cultural, and Archeological Resources (comments received 6/16/97)
- U.S. Fish and Wildlife Services (comments received 5/28/97)
- Arizona Game and Fish Department
- Arizona Department of Water Resources
- Arizona Commission of Agriculture and Horticulture
- Arizona State Land Department
- U.S. Bureau of Land Management (comments received 5/28/97)
- U.S. Department of Agriculture (comments received 6/18/97)

- Arizona Department of Transportation, Environmental Planning
- Cochise County Department of Facilities and Solid Waste Management (comments received 5/28/97)

#### Social Impacts

These are impacts which arise from the disruption of communities, relocation of persons, changes in employment patterns and changes in transportation patterns.

No relocation of persons, or changes in employment or major changes in transportation patterns are necessary with the proposed plan of development. Therefore, no impacts associated with the planned development are foreseen.

No agency comments were received regarding this issue.

#### Induced Socioeconomic Impacts

These secondary or indirect impacts involve shifts in population, changes in economic climate, or shifts in levels of public service demand. The effects are directly proportional to the scope of the project under consideration.

Assessment of socioeconomic impacts is usually associated with major development at larger air carrier airports, which involve major terminal building development of roadway alignments, and similar work. The extent of the indirect socioeconomic impacts of the proposed development is not of the magnitude that would normally be considered significant.

No agency comments were received regarding this issue.

#### Air Quality

The Federal Aviation Administration, through FAA Order 5050.4A, *Airport Environmental Handbook*, includes an established procedure which is followed in order to determine whether an air quality analysis is necessary for a proposed airport development action.

The initial step in this process is to determine whether the anticipated project has the potential for increasing airport operations, ground traffic, or parking capacity.

Forecasts of estimated aviation activity for the 1997 through 2016 period were developed as part of the planning process for the Bisbee-

Douglas International Airport. Assuming that the increase in activity shown in the forecasts might indicate a potential for increased impacts to air quality, the next step in the process is the determination of whether or not the airport is within a state within direct source review (ISR)

The state of Arizona is not an ISR state. This being the case, the threshold criteria contained in the FAA Environmental Handbook must be examined in order to determine if an assessment of air quality is required. According to the Handbook, no air quality analysis is required if the levels of activity forecast in the time frame of the proposed action are below either of the following.

- For commercial service airports: Less than 1.3 million annual passenger and less than 180,000 annual general aviation operations.
- For general aviation airports: Less than 180,000 forecast annual operations.

For the planning year 2016, the total annual operations forecast for Bisbee-Douglas International Airport is 45,556. It is evident from the number of forecasted operations for Bisbee-Douglas International Airport that neither of these criteria will be exceeded. An air quality assessment should not be required.

The 1982 Airport Act requires that Airport Improvement Program applications for projects involving airport location, runway location, or a major runway extension shall not be approved unless the governor of the state in which the project is located certifies that there is "reasonable assurance" that the project will be located, designed, constructed and operated in compliance with applicable air quality standards.

This certification should be applied for, as part of an EA process, through the Arizona Department of Environmental Quality (ADEQ).

The ADEQ has identified asbestos renovation and demolition as an air quality issue. The ADEQ's letter recommends contacting the ADEQ National Emission Standards for Hazardous Air Pollutants (NESHAP) Coordinator (see Exhibit 7 at the end of this section).

Water Quality

The 1982 Airport Act also requires that federal Airport Improvement Program (AIP) applications for projects involving airport location, runway location, or a major runway extension shall not be approved unless the governor of the state in which the project is located certifies that there is "reasonable assurance" that the project will be located, designed, constructed, and operated in compliance with all applicable water quality standards. As with the air quality assurance, this certification should be applied for as part of an EA process, through the Arizona Department of Environmental Quality (ADEQ).

The ADEQ indicates in Exhibit 7 that a storm water permit must be applied for prior to commencement of construction activities if clearing, grubbing and excavation activities disturb more than five acres of land. Grading of less than five acres will also be required to be permitted if it is part of a larger development plan.

If construction activities involve channelization or earthmoving within a "water of the United States", a 404 permit will need to be obtained from the U.S. Army Corps of Engineers prior to commencement of construction (Reference: Exhibits 1, 2, 7 and 8).

Short-term impacts to water quality caused by construction activity (erosion) must be addressed for each construction project in specifications.

Impacts Upon Public  
Recreation Areas and  
Historical/Cultural  
Resources

Section 4(f) of the DOT Act states that the "*Secretary shall not approve any program or project which requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state or local significance as determined by officials having jurisdiction thereof unless there is no feasible and prudent alternative to the use of such land and such program or project includes all possible planning to minimize harm resulting from the use.*"

The proposed improvements will have no significant impacts upon existing parks, established waterfowl/wildlife refuges or recreation areas. However, it has been noted in the Master Plan text that there are several structures that may be regarded as historic. The Arizona State Historic Preservation Office indicates that "some extant features of the site may qualify for inclusion on the Arizona or National Register of Historic Places" (Reference: Exhibit 5).

The State Historic Preservation Office also indicates that appropriate federal and state agencies should be consulted regarding cultural



resources during the development of a project.

If an Environmental Assessment is required prior to design and construction of a proposed project, we recommend that an archeological survey be included as part of the EA process. In the event that there may be existing cultural resources in the development area, construction project specifications should require that projects be temporarily stopped if any cultural resources are found during construction.

Biotic Communities -  
Flora and Fauna

This section considers the impacts of proposed projects on biotic communities and has overlapping requirements with the next two sections (Threatened and Endangered Species and Wetlands). The requirements of this section are as follows.

1. If a proposed project takes or impacts a publicly-owned wildlife refuge, a special study needs to be prepared.

This requirement does not apply to Bisbee-Douglas International Airport.

2. For any proposed project it is necessary to consider the impacts on endangered and threatened species, if any (refer to the next section).
3. If the proposed project would affect water resources (i.e., wetlands, groundwater, impoundment, diversion, deepening, controlling, modifying, polluting, dredging, or filling of any stream or body of water), the Fish and Wildlife Coordination Act applies. Consultation should be initiated with both the U.S. Fish and Wildlife Service and with the Arizona Game and Fish Department. Letters should be sought and obtained from both agencies to determine if any proposed actions will damage wildlife resources and to determine mitigating measures, if necessary (Reference: Exhibit 2).

The Airport Environmental Handbook states (Page 42 - Section 9d1): *"If the proposal would impact only man-dominated areas such as previously disturbed airport property, populated areas, or farmland, it may be assumed that there would be no significant impact on biotic communities."* Section 9d2 states that if the project *"would impact other than man-dominated*

*areas but the impacts would be transient rather than permanent, such as dislocation or other impacts due to construction activities, it may be assumed that there would be no significant impact on biotic communities. The environmental assessment shall document the transient nature of the impacts and any mitigation measure."*

Most of the proposed projects at Bisbee-Douglas International Airport would appear to affect only "man-dominated" areas so that these projects would have no significant impact on biotic communities. However, the unused buildings at the Airport have been dormant and have become shelters for bats, owls and perhaps other wildlife. Prior to demolition or renovation of any unused airport building, we recommend that a biological assessment be performed.

See the next section (Threatened and Endangered Species) for comments received.

#### Threatened and Endangered Species

It is necessary for any proposed project to consider the impacts on Threatened and Endangered Species. An "Endangered Species" is defined as any member of the animal or plant kingdom determined to be in danger of extinction throughout all or a significant portion of its range.

A "Threatened Species" is defined as any member of the plant or animal kingdom which are likely to become endangered in the foreseeable future.

No determination has been made as to whether any of the proposed projects would impact Threatened or Endangered Species. The U.S. Fish and Wildlife Service has provided a list of Endangered or Threatened Species, and candidates for the list, that may be found within Cochise County (Reference: Exhibit 2). The BDI Airport "may not necessarily include all or any of these species".

#### Wetlands

Wetlands are defined in Executive Order 11990, Protection of Wetlands, as "those areas that are inundated by surface or ground water with a frequency sufficient to support, and under normal circumstances does or would support, a prevalence of vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, and natural ponds." (Reference also: Exhibits 2 and 8).

There are no wetlands at Bisbee-Douglas International Airport. Furthermore, the airport property does not appear to drain to a wetland.

#### Floodplains

Floodplains are defined by Executive Order 11988, Floodplain Management, as the lowland and relatively flat areas adjoining coastal water "...including a minimum, that area subject to a one percent or greater chance of flooding in any given year...", that is, an area which would be inundated by a 100-year flood. If a proposed development involves a 100 year floodplain, mitigating measures must be investigated in order to avoid significant changes to the drainage system.

Bisbee-Douglas International Airport does not lie within a designated floodplain. Therefore, none of the proposed projects would impact a 100-year floodplain.

No agency comments were received regarding this issue.

#### Coastal Zone Management Programs and Coastal Barriers

Each state, where applicable, has initiated a Coastal Zone Management Program which encompasses the inland limits of the coastal zone as designated by the state.

Bisbee-Douglas International Airport is not located within or near a designated coastal zone.

No agency comments were received regarding this issue.

#### Wild and Scenic Rivers

The Wild and Scenic Rivers Act describes those river areas eligible for protection from development. As a general rule these rivers possess outstanding scenic, recreational, geological, fish and wildlife, historical, cultural, or other similar value.

No rivers currently classified as Wild and Scenic are in the close proximity of Bisbee-Douglas International Airport.

No agency comments were received regarding this issue.

#### Conversion of Farmland

The Farmland Protection Policy Act (FPPA) authorizes the Department of Agriculture to develop criteria for identifying the effects of Federal programs upon the conversion of farmland to uses other

than agriculture (Reference: Exhibit 8).

The proposed improvements will all be developed upon existing airport property which is not currently or potentially agricultural use land. Therefore, no impacts to farmlands are expected.

Energy Supply and  
Natural Resources

For most general aviation and non-hub air carrier airport actions, changes in energy demands or other natural resource consumption will not result in significant impacts. This is the case for the proposed projects at Bisbee-Douglas International Airport.

No agency comments were received regarding this issue.

Light Emissions

Aviation lighting required for the purpose of obstruction marking, security of parked aircraft and vehicles, and visual aids to navigation are the main source of light emissions emanating from airports. An analysis is necessary only if a proposal would introduce new airport lighting facilities which might affect nearby residential or other sensitive land uses.

Bisbee-Douglas International Airport is located in a non-residential area. The proposed lighting systems should not significantly impact adjacent land uses.

No agency comments were received regarding this issue.

Solid Waste Impacts

Airport development actions which relate only to construction or expansion of runways, taxiways, and related facilities do not normally include any direct relationship to solid waste collection, control, or disposal. All of the "airside" improvements proposed for Bisbee-Douglas International Airport fit into this category, so no significant impacts to solid waste generation are anticipated.

Any solid waste disposal facility (i.e., sanitary landfill, transfer station, etc.) which is located within 5,000 feet of all runways planned to be used by piston-powered aircraft, or within 10,000 feet of all runways planned to be used by turbine-powered aircraft is considered by the FAA to be an incompatible land use because of the potential for conflicts between bird habitat and low-flying aircraft. Any waste disposal facility which is located within a 5 mile radius of any runway end *"that attracts or sustains hazardous bird movements from feeding, water*

*or roosting areas into, or across the runways and/or approach and departure patterns of aircraft" is also considered to be incompatible. This determination is contained in paragraph 5 of FAA Order 5200.5A, FAA Guidance Concerning Sanitary Landfills On or Near Airports.*

Reference to this potential hazard is also made in 40 CFR Part 257, Criteria for Classification of Solid Waste Disposal Facilities, section 257.3-8.

There are no existing or planned solid waste disposal sites within 10,000 feet of the runway at Bisbee-Douglas International Airport. There are no solid waste disposal facilities located within a five-mile radius of the BDI Airport (Reference: Exhibit 4).

#### Construction Impacts

Any construction project will generate short-term environmental impacts. These may include noise and air pollution (dust and exhaust emissions) from construction equipment on the site and traversing nearby neighborhoods, air pollution from burning of refuse, and water pollution from erosion and increased siltation of downtown bodies of water.

All of these potential impacts can be controlled by requirements and restrictions placed in the Contract Documents and Specifications for each project.

Potential erosion and siltation should be mitigated by incorporation of applicable federal and state standards into the construction contract specifications. Typically, this involves creation and implementation of a Storm Water Pollution Prevention Plan (SWPPP).

As a method of minimizing noise and air pollution caused by construction equipment, the contractor's equipment access be routed to avoid the most sensitive adjacent areas and to contain the adverse impacts as much as possible to the airport property.

The access routs and limitations should be defined on the construction plans and in the specifications, as appropriate.

Dust pollution should be specifically mitigated by requiring appropriate dust control measures as part of the construction specifications.

Coordination with the Arizona Department of Environmental Quality

may be necessary during the development of construction plans and during the construction activities.

No agency comments were received regarding this issue.

#### Aircraft Noise

A noise analysis is not required by the Federal Aviation Administration for airport proposals which involve utility or transport airports whose forecast annual operations within the period covered by an Environmental Assessment do not exceed 90,000 annual propeller operations or 700 jet operations.

According to the forecasts developed for the Bisbee-Douglas International Airport, propeller activity will remain below this threshold level during the period under study. However, activity by jet aircraft may exceed 700 annual operations during the planning period (the forecasts do not distinguish between jet and turboprop operations). Therefore, a noise analysis was undertaken for the selected Alternative (No. 3) runway configuration, as depicted on the Airport Layout Plan.

The Federal Aviation Administration defines 65 Ldn as the threshold of significance for noise exposure impacts, and mandates that the most current version of the Integrated Noise Model (INM) computer program be used to define noise exposure levels. For the BDI noise analysis, the Ldn method of noise contour development was utilized, using the FAA Integrated Noise Model computer program (Version 5.1).

The Department of Housing and Urban Development (HUD), has published noise abatement and control standards in its Circular 1390.2 in an effort to separate uncontrollable noise sources from residential and other noise sensitive areas, and to prohibit HUD support for construction within sites determined to have unfavorable noise exposure conditions. A rating of less than Ldn 65 is considered acceptable for residential development. Ldn 65 to 75 is defined as discretionary and a rating of more than Ldn 75 is considered unacceptable for residential development.

The Arizona Department of Transportation, Aeronautics Division, has requested that the analysis include definition of the 55 Ldn contour in addition to the FAA and HUD 65 Ldn threshold of significance.

The noise modeling included analysis of both the estimated existing activity (the "Actual Current Activity", as determined in Section 3, presented on page 3-11), and the potential year 2016 activity (the "Forecast of Annual Operations" - assuming significant airport improvements, as presented on page 3-19). The average peak daily operations for the existing and ultimate scenarios are as determined in Section 4.

Because of limitations in the noise modeling software and in the available data, certain assumptions were made, as follows:

- ▶ Runway use was estimated by reference to the wind data.
- ▶ Landing tracks were based on approximate standard traffic patterns for uncontrolled fields.
- ▶ Departure tracks were modeled to consider departures from the airport traffic area in all directions, in conformance with standard acceptable procedures.
- ▶ All runways have left traffic patterns.
- ▶ Standard INM aircraft models were selected to represent each of the fixed wing categories included in the forecasts.
- ▶ Ultralights were included in the fixed wing piston single-engine category, because the INM does not specifically accommodate them.
- ▶ It was assumed that rotorcraft will use the fixed wing operations areas. The INM does not provide for rotorcraft operations or types. Therefore, fixed wing types were assumed to represent the rotorcraft (this provides a conservative result).
- ▶ It was assumed that daylight activity will account for 80% of total operations, evening activity will account for 15%, and operations at night will account for the remaining 5%.

The resulting noise contours are illustrated on Figures 8-1 and 8-2 at the end of this Section.

In the existing 1997 scenario (Figure 8-1), the 65 Ldn contour is confined to the Runway 17-35 operations area, and no significant impacts are evident to adjoining land.

In the ultimate 2016 scenario (Figure 8-2), the 65 Ldn contour is confined to the present airport property, or property to be acquired for future Runway 3-21 construction, except for a small portion which extends about 500 feet into adjacent private land, to the south across Highway 191. The affected land area is about 3 acres. Current zoning in this area is RU-4, which is residential zoning that requires a minimum 4-acre lot size. The land is currently not developed. Land planning could easily avoid the 65 Ldn contour with no apparent hardship to the land owner and relocation of the Runway 35 threshold from its present location (per the ALP) will mitigate a potentially more significant impact.

No significant future noise impacts are foreseen.

No agency comments were received regarding this issue.

#### Compatible Land Use

Land-use compatibility conflicts are a common problem around many airports and smaller General Aviation facilities. In urban areas, as well as some rural settings, airport owners find that essential expansion to meet the demands of airport traffic is difficult to achieve due to the nearby development of incompatible land uses.

The issue of aircraft noise is generally the most apparent perceived environmental impact upon the surrounding community. As was mentioned above, there are no apparent significant noise exposure levels associated with the planned development.

Conflicts may also exist in the protection of runway approach and transition zones to assure the safety of both the flying public and the adjacent property owners. Adequate land for this use should be either owned in fee or controlled in easements.

Within the Master Plan, fee or lease acquisition of 87.48 acres is recommended for the Runway 3 Protection Zone in order to control this space for airport use.

A review of the area adjacent to the airport, performed during the course of preparing this Master Plan, indicates that there are presently no existing, adjacent incompatible land uses affecting the airport. To maintain this condition, Cochise County should enact airport-related local ordinances. The Arizona Airports Land Use Compatibility Study, Volume V of the Arizona Aviation System Plan (December 1992), prepared by the Arizona Department of Transportation,



Aeronautics Division, is a source document for potential local ordinances. Among the airport-related ordinances that the County should consider are:

- Height hazard ordinances
- Noise ordinances
- Land use ordinances

No agency comments were received regarding this issue.

Miscellaneous

As Noted in Section 2 of this Master Plan, Various occupied and unoccupied airport buildings contain potential environmental hazards. The most common hazard is asbestos insulation. Any renovation, remodeling or demolition of an airport building should include an abatement program for these hazards.

SUMMARY OF  
FINDINGS

There are two proposed projects that will require preparation of an Environmental Assessment and issuance of a FONSI. These are the reconstruction of Runway 3-21 in the Immediate Term, since approximately 2,750 feet will be new runway; and the extension of Runway 17-35 in the Ultimate Term. The Environmental Assessment for these projects should address all applicable items listed in FAA Order 5050.4. Based on this environmental overview, the critical issues appear to be:

- Cultural and Historic Resources
- Air Quality
- Water Quality
- Endangered and Threatened Species
- Construction Impacts

For those airport projects that are "Categorically Excluded", environmental planning must still be considered. Plans and specifications should address the following:

- Cultural and Historic Resources
- Air Quality
- Water Quality
- Construction Impacts

Other proposed projects which may involve the use of federal or state funds, other than FAA or ADOT-Aeronautics funds, may be subject

## Section 8: Environmental Factors

---

to other permitting requirements. Plans for renovation of any building should consider the existence of asbestos or other hazardous materials. Prior to renovating or demolishing any currently occupied building, a biological assessment should be performed. All results should be forwarded to the U.S. Fish and Wildlife Service, and the Arizona Game and Fish Department for consultation.

Cochise County should enact airport-related ordinances to control the use of land surrounding the airport.



**DEPARTMENT OF THE ARMY**  
LOS ANGELES DISTRICT, CORPS OF ENGINEERS  
ARIZONA-NEVADA AREA OFFICE  
3636 NORTH CENTRAL AVENUE, SUITE 760  
PHOENIX, ARIZONA 85012-1936

REPLY TO  
ATTENTION OF:

May 16, 1997

Office of the Chief  
Regulatory Branch

Cochise County  
C/O Gannett Fleming, Inc.  
ATTN: Ronald D. Schreier  
3001 East Camelback Road Suite 130  
Phoenix, Arizona 85016-4498

File Number: 974-0397-RJD

Dear Mr. Schreier:

It has come to our attention that you plan to expand and improve airport facilities, possibly in some unnamed washes, at the Bisbee-Douglas International Airport (Sections 27, 28, 32, 33, and 34, T22S, R27E and Sections 3, 4, 5, 9, and 10, T23S, R27E), Cochise County, Arizona.

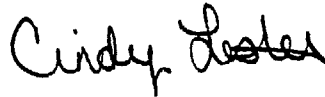
This activity may require a Department of the Army permit issued under Section 404 of the Clean Water Act. The Corps of Engineers first needs to determine where, if any, jurisdictional "waters of the United States" occur within areas impacted by future airport improvements. See the enclosed memorandum about how to obtain a jurisdictional determination from the Corps of Engineers.

A Section 404 permit is required for the discharge of dredged or fill material into the "waters of the United States," including adjacent wetlands. Examples of activities requiring a permit are placing bank protection, temporary or permanent stock-piling of excavated material, grading roads, grading (including vegetative clearing operations) that involves the filling of low areas or leveling the land, constructing weirs or diversion dikes, constructing approach fills, and discharging dredged or fill material as part of any other activity.



Enclosed you will find a permit application form and a pamphlet that describes our regulatory program. If you have questions, please contact Robert J. Dummer at (602) 640-5385 x 224. Please refer to file number 974-0397-RJD in your reply.

Sincerely,

A handwritten signature in cursive script that reads "Cindy Lester".

Cindy Lester  
Chief, Arizona Section  
Regulatory Branch

Enclosure(s)



**United States Department of the Interior  
Fish and Wildlife Service**

Arizona Ecological Services Field Office  
2321 W. Royal Palm Road, Suite 103  
Phoenix, Arizona 85021-4951  
(602) 640-2720 Fax (602) 640-2730



In Reply Refer To:  
AESO/SE  
2-21-97-I-262  
CCN 97-0521

May 27, 1997



Mr. Ronald D. Schreier, P.E.  
Project Manager  
Gannett Fleming, Inc.  
3001 East Camelback Road, Suite 130  
Phoenix, Arizona 85016-4498

RE: Bisbee-Douglas International Airport Master Plan (GF Job No. 31268)

Dear Mr. Schreier:

This letter responds to your May 20, 1997, request for an inventory of threatened or endangered species, or those that are proposed to be listed as such under the Endangered Species Act of 1973, as amended (Act), which may potentially occur in your project area (Cochise County). The attached list may include candidate species as well. In the past, the U.S. Fish and Wildlife Service has provided project-specific species lists and information. However, staff reductions no longer permit us to provide this detailed level of assistance. We regret any inconvenience this may cause you and hope the enclosed county list of species will be helpful. In future communications regarding this project, please refer to consultation number 2-21-97-I-262.

The enclosed list of the endangered, threatened, proposed, and candidate species includes all those potentially occurring anywhere in the county, or counties, where your project occurs. Please note that your project area may not necessarily include all or any of these species. The information provided includes general descriptions, habitat requirements, and other information for each species on the list. Also on the enclosed list is the Code of Federal Regulations (CFR) citation for each listed or proposed species. Additional information can be found in the CFR and is available at most public libraries. This information should assist you in determining which species may or may not occur within your project area. Site-specific surveys could also be helpful and may be needed to verify the presence or absence of a species or its habitat as required for the evaluation of proposed project-related impacts.

Endangered and threatened species are protected by Federal law and must be considered prior to project development. If the action agency determines that listed species or critical habitat may be adversely affected by a federally funded, permitted, or authorized activity, the action agency must request formal consultation with the Service. If the action agency determines that the planned action may jeopardize a proposed species or destroy or adversely modify proposed

critical habitat, the action agency must enter into a section 7 conference with the Service. Candidate species are those which are being considered for addition to the list of threatened or endangered species. Candidate species are those for which there is sufficient information to support a proposal for listing. Although candidate species have no legal protection under the Act, we recommend that they be considered in the planning process in the event that they become listed or proposed for listing prior to project completion.

If any proposed action occurs in or near areas with trees and shrubs growing along watercourses, known as riparian habitat, the Service recommends the protection of these areas. Riparian areas are critical to biological community diversity and provide linear corridors important to migratory species. In addition, if the project will result in the deposition of dredged or fill materials into waterways or excavation in waterways, we recommend you contact the Army Corps of Engineers which regulates these activities under Section 404 of the Clean Water Act.

The State of Arizona protects some plant and animal species not protected by Federal law. We recommend you contact the Arizona Game and Fish Department and the Arizona Department of Agriculture for State-listed or sensitive species in your project area.

The Service appreciates your efforts to identify and avoid impacts to listed and sensitive species in your project area. If we may be of further assistance, please contact Tom Gatz.

Sincerely,



Sam F. Spiller  
Field Supervisor

Enclosure

cc: Director, Arizona Game and Fish Department, Phoenix, AZ

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY:

COCHISE

3/19/97

LISTED TOTAL= 19

NAME: CANELO HILLS LADIES' TRESSES

*SPIRANTHES DELITESCENS*

STATUS: ENDANGERED CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 62 FR 665, 01-06-97

DESCRIPTION: SLENDER ERECT MEMBER OF THE ORCHID FAMILY (ORCHIDACEAE).  
FLOWER: STALK 50 CM TALL, MAY CONTAIN 40 WHITE FLOWERS  
SPIRALLY ARRANGED ON THE FLOWERING STALK.

ELEVATION  
RANGE: about 5000 FT.

COUNTIES: COCHISE, SANTA CRUZ

HABITAT: FINELY GRAINED, HIGHLY ORGANIC, SATURATED SOILS OF CIENEGAS

POTENTIAL HABITAT OCCURS IN SONORA, MEXICO, BUT NO POPULATIONS HAVE BEEN FOUND.

NAME: COCHISE PINCUSHION CACTUS

*CORYPHANTHA ROBBINSORUM*

STATUS: THREATENED CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 51 FR 952, 1-9-1986

DESCRIPTION: A SMALL UNBRANCHED CACTUS WITH NO CENTRAL SPINES AND 11-17  
WHITE RADIAL SPINES. THE BELL-SHAPED FLOWERS ARE BORNE ON  
THE ENDS OF TUBERCULES (Protrusions). FLOWERS: BELL SHAPED,  
PALE YELLOW-GREEN. FRUITS: ORANGE-RED TO RED

ELEVATION  
RANGE: >4200 FT.

COUNTIES: COCHISE AND SONORA, MEXICO

HABITAT: SEMIDESERT GRASSLAND WITH SMALL SHRUBS, AGAVE, OTHER CACTI, AND GRAMA GRASS.

GROWS ON GRAY LIMESTONE HILLS.

NAME: HUACHUCA WATER UMBEL

*LILAEOPSIS SCHAFFNERIANA* ssp *RECURVA*

STATUS: ENDANGERED CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 62 FR 665, 01-06-97

DESCRIPTION: HERBACEOUS, SEMI-AQUATIC PERENNIAL IN THE PARSLEY FAMILY  
(UMBELLIFERAE) WITH SLENDER ERECT, HOLLOW, LEAVES THAT GROW  
FROM THE NODES OF CREEPING RHIZOMES. FLOWER: 3 TO 10  
FLOWERED UMBELS ARISE FROM ROOT NODES.

ELEVATION  
RANGE: 3500-6500 FT.

COUNTIES: PIMA, SANTA CRUZ, COCHISE

HABITAT: CIENEGAS, PERENNIAL LOW GRADIENT STREAMS, WETLANDS

AND IN ADJACENT SONORA, MEXICO, WEST OF THE CONTINENTAL DIVIDE. POPULATIONS ALSO ON FORT  
HUACHUCA MILITARY RESERVATION.

3/19/97

NAME: NEW MEXICAN RIDGE-NOSED RATTLESNAKE *CROTALUS WILLARDI OBSCURUS*

STATUS: THREATENED

CRITICAL HABITAT: Yes RECOVERY PLAN: Yes CFR: 43 FR 34479, 04-04-1978

DESCRIPTION: SMALL 12-24 INCHES, SECRETIVE GRAYISH-BROWN WITH DISTINCT  
RIDGE ON THE END OF THE SNOUT. THE DORSAL SURFACE HAS  
OBSCURE, IRREGULARLY SPACED WHITE CROSSBARS EDGED WITH  
BROWN (NOT A BOLD PATTERN).

ELEVATION

RANGE: 5600-9000 FT.

COUNTIES: COCHISE

HABITAT: PRESUMABLY CANYON BOTTOMS IN PINE-OAK & PINE-FIR COMMUNITIES WITH ALDER, MAPLE, OAK, &  
BOX ELDER

THE SUBSPECIES HAS NOT BEEN DOCUMENTED IN ARIZONA. HOWEVER, IT HAS BEEN OBSERVED NEAR THE  
ARIZONA BORDER IN THE PELONCILLO MOUNTAINS AND LIKELY OCCURS IN THE ARIZONA PORTION OF THAT  
RANGE AS WELL. ANOTHER SUBSPECIES, (*CROTALUS WILLARDI WILLARDI*), IS AN ARIZONA STATE CANDIDATE.

NAME: JAGUARUNDI

*FELIS YAGOUAROUNDI TOLTECA*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 41 FR 24064; 06-14-76

DESCRIPTION: SMALL CAT WITH SHORT LEGS; SLENDER, ELONGATE BODY; AND LONG  
TAIL. HEAD SMALL & FLATTENED WITH SHORT ROUNDED EARS.  
REDDISH-YELLOW OR BLACKISH TO BROWN-GRAY IN COLOR AND  
WITHOUT SPOTS.

ELEVATION

RANGE: 3500-6000 FT.

COUNTIES: SANTA CRUZ, PIMA, COCHISE

HABITAT: CAN BE FOUND IN A VARIETY OF HABITATS (SEE BELOW)

SEMI-ARID THORNY FORESTS, DECIDUOUS FORESTS, HUMID PRE-MONTANE FORESTS, UPLAND DRY SAVANNAHS,  
SWAMPY GRASSLANDS, RIPARIAN AREAS, AND DENSE BRUSH. UNCONFIRMED REPORTS OF INDIVIDUALS IN THE  
SOUTHERN PART OF THE STATE CONTINUE TO BE RECEIVED. NO SPECIMENS HAVE BEEN COLLECTED IN  
ARIZONA.

NAME: LESSER LONG-NOSED BAT

*LEPTONYCTERIS CURASOAE YERBABUENAE*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 53 FR 38456, 09-30-88

DESCRIPTION: ELONGATED MUZZLE, SMALL LEAF NOSE, AND LONG TONGUE.  
YELLOWISH BROWN OR GRAY ABOVE AND CINNAMON BROWN BELOW.  
TAIL MINUTE AND APPEARS TO BE LACKING. EASILY DISTURBED.

ELEVATION

RANGE: &lt;6000 FT.

COUNTIES: COCHISE, PIMA, SANTA CRUZ, GRAHAM, PINAL, MARICOPA

HABITAT: DESERT SCRUB HABITAT WITH AGAVE AND COLUMNAR CACTI PRESENT AS FOOD PLANTS

DAY ROOSTS IN CAVES AND ABANDONED TUNNELS. FORAGES AT NIGHT ON NECTAR, POLLEN, AND FRUIT OF  
PANICULATE AGAVES AND COLUMNAR CACTI. THIS SPECIES IS MIGRATORY AND IS PRESENT IN ARIZONA,  
USUALLY FROM APRIL TO SEPTEMBER AND SOUTH OF THE BORDER THE REMAINDER OF THE YEAR.



LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY:

COCHISE

3/19/97

NAME: MEXICAN GRAY WOLF

*CANIS LUPUS BAILEYI*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-67; 43

DESCRIPTION: LARGE DOG-LIKE CARNIVORE WITH VARYING COLOR, BUT USUALLY A  
SHADE OF GRAY. DISTINCT WHITE LIP LINE AROUND MOUTH. WEIGH 60-  
90 POUNDS.

FR 1912, 03-09-78

ELEVATION

RANGE: 4,000-12,000 FT.

COUNTIES: COCHISE, PIMA, SANTA CRUZ

HABITAT: CHAPPARAL, WOODLAND, AND FORESTED AREAS. MAY CROSS DESERT AREAS.

HISTORIC RANGE IS CONSIDERED TO BE LARGER THAN THE COUNTIES LISTED ABOVE. UNCONFIRMED REPORTS OF INDIVIDUALS IN THE SOUTHERN PART OF THE STATE CONTINUE TO BE RECEIVED. INDIVIDUALS MAY STILL PERSIST IN MEXICO.

NAME: OCELOT

*FELIS PARDALIS*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 47 FR 31670; 07-21-82

DESCRIPTION: MEDIUM-SIZED SPOTTED CAT WHOSE TAIL IS ABOUT 1/2 THE LENGTH  
OF HEAD AND BODY. YELLOWISH WITH BLACK STREAKS AND STRIPES  
RUNNING FROM FRONT TO BACK. TAIL IS SPOTTED AND FACE IS LESS  
HEAVILY STREAKED THAN THE BACK AND SIDES.

ELEVATION

RANGE: <8000 FT.

COUNTIES: SANTA CRUZ, PIMA, COCHISE

HABITAT: HUMID TROPICAL & SUB-TROPICAL FORESTS, SAVANNAHS, AND SEMI-ARID THORNSCRUB.

MAY PERSIST IN PARTLY-CLEARED FORESTS, SECOND-GROWTH WOODLAND, AND ABANDONED CULTIVATION REVERTED TO BRUSH. UNIVERSAL COMPONENT IS PRESENCE OF DENSE COVER. UNCONFIRMED REPORTS OF INDIVIDUALS IN THE SOUTHERN PART OF THE STATE CONTINUE TO BE RECEIVED.

NAME: BEAUTIFUL SHINER

*CYPRINELLA FORMOSA*

STATUS: THREATENED

CRITICAL HABITAT: Yes RECOVERY PLAN: Yes CFR: 49 FR 34490, 8-31-1984

DESCRIPTION: SMALL (2.5 INCHES) SHINY MINNOW AND VERY SIMILAR TO RED SHINER.  
MALES COLORFUL DURING BREEDING (YELLOW-ORANGE OR ORANGE  
ON CAUDAL AND LOWER FINS AND BLUISH BODY.

ELEVATION

RANGE: <4500 FT.

COUNTIES: COCHISE

HABITAT: SMALL TO MEDIUM SIZED STREAMS AND PONDS WITH SAND, GRAVEL, AND ROCK BOTTOMS.

VIRTUALLY EXTIRPATED IN THE UNITED STATES, WITH THE EXCEPTION OF A FEW ISOLATED POPULATIONS ON NATIONAL WILDLIFE REFUGES AND IN MEXICO. SAME CRITICAL HABITAT AS YAQUI CHUB AND CATFISH (SEE 49 FR 34490, 08-31-1984).

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY:

COCHISE

3/19/97

NAME: YAQUI CATFISH

*ICTALURUS PRICEI*

STATUS: THREATENED

CRITICAL HABITAT: Yes RECOVERY PLAN: Yes CFR: 49 FR 34490, 08-31-1984

DESCRIPTION: SIMILAR TO CHANNEL CATFISH (*Ictalurus punctatus*) EXCEPT ANAL FIN  
BASE IS SHORTER AND THE DISTAL MARGIN OF THE ANAL FIN IS  
BROADLY ROUNDED WITH 23-25 SOFT RAYS. BODY USUALLY  
PROFUSELY SPECKLED.

ELEVATION

RANGE: 4000-5000 FT.

COUNTIES: COCHISE

HABITAT: MODERATE TO LARGE STREAMS WITH SLOW CURRENT OVER SAND AND ROCK BOTTOMS

CRITICAL HABITAT ALL AQUATIC HABITATS IN THE MAIN PORTION OF SAN BERNADINO NATIONAL WILDLIFE  
REFUGE

NAME: YAQUI CHUB

*GILA PURPUREA*

STATUS: ENDANGERED

CRITICAL HABITAT: Yes RECOVERY PLAN: Yes CFR: 49 FR 34490, 08-31-1984

DESCRIPTION: MEDIUM SIZED MINNOW (<6 INCHES) DARK COLORED, LIGHTER BELOW.  
DARK TRIANGULAR CAUDAL SPOT

ELEVATION

RANGE: 4000-6000 FT.

COUNTIES: COCHISE (AZ), MEXICO

HABITAT: DEEP POOLS OF SMALL STREAMS, POOLS, OR PONDS NEAR UNDERCUT BANKS.

CRITICAL HABITAT INCLUDES ALL AQUATIC HABITATS OF THE MAIN PORTION SAN BERNADINO NATIONAL WILDLIFE  
REFUGE.

NAME: YAQUI TOPMINNOW

*POECILIOPSIS OCCIDENTALIS SONORIENSIS*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-1967

DESCRIPTION: SMALL (2 INCHES) TOPMINNOW GUPPY-LIKE, LIVE BEARING, LACKING  
DARK SPOTS. BREEDING MALES JET BLACK WITH YELLOW FINS.

ELEVATION

RANGE: <4500 FT.

COUNTIES: COCHISE

HABITAT: SMALL TO MODERATE SIZED STREAMS, SPRINGS, & CIENEGAS GENERALLY IN SHALLOWS

3/19/97

NAME: AMERICAN PEREGRINE FALCON

*FALCO PEREGRINUS ANATUM*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 35 FR 16047, 10-13-70; 35

DESCRIPTION: A RECLUSIVE, CROW-SIZED FALCON SLATY BLUE ABOVE WHITISH  
BELOW WITH FINE DARK BARRING. THE HEAD IS BLACK AND APPEARS  
TO BE MASKED OR HELMETED. WINGS LONG AND POINTED. LOUD  
WAILING CALLS ARE GIVEN DURING BREEDING PERIOD.

ELEVATION

RANGE: 3500-9000 FT.

COUNTIES: MOHAVE COCONINO NAVAJO APACHE SANTA CRUZ MARICOPA COCHISE YAVAPAI GILA PINAL PIMA  
GREENLEE GRAHAM

HABITAT: CLIFFS AND STEEP TERRAIN USUALLY NEAR WATER OR WOODLANDS WITH ABUNDANT PREY

THIS IS A WIDE-RANGING MIGRATORY BIRD THAT USES A VARIETY OF HABITATS. BREEDING BIRDS ARE YEAR-  
ROUND RESIDENTS. OTHER BIRDS WINTER AND MIGRATE THROUGH ARIZONA. SPECIES IS ENDANGERED FROM  
REPRODUCTIVE FAILURE FROM PESTICIDES.

NAME: CALIFORNIA CONDOR

*GYMNOPS CALIFORNIANUS*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-67

DESCRIPTION: VERY LARGE VULTURE (55 INCHES HEAD TO TAIL, WING=34, TAIL=16,  
TARSUS=4.25). HEAD AND UPPER PARTS OF NECK BARE, BILL YELLOW,  
CERE, HEAD, AND NECK YELLOWISH-RED, PLUMAGE GREY-BLACK.

ELEVATION

RANGE: VARIES FT.

COUNTIES: MOHAVE, COCONINO, NAVAJO COCHISE

HABITAT: HIGH DESERT CANYONLANDS, AND PLATEAUS

RECOVERY/REINTRODUCTION PROGRAM CURRENTLY EVALUATING THE FEASIBILITY OF REINTRODUCTION INTO  
ARIZONA BY 1996. NO LONGER OCCURS IN ARIZONA.

NAME: MEXICAN SPOTTED OWL

*STRIX OCCIDENTALIS LUCIDA*

STATUS: THREATENED

CRITICAL HABITAT: Yes RECOVERY PLAN: Yes CFR: 56 FR 14678, 04-11-91

DESCRIPTION: MEDIUM SIZED WITH DARK EYES AND NO EAR TUFTS. BROWNISH AND  
HEAVILY SPOTTED WITH WHITE OR BEIGE.

ELEVATION

RANGE: 4100-9000 FT.

COUNTIES: MOHAVE, COCONINO, NAVAJO, APACHE, YAVAPAI, GRAHAM, GREENLEE, COCHISE, SANTA CRUZ, PIMA,  
PINAL, GILA, MARICOPA

HABITAT: NESTS IN CANYONS AND DENSE FORESTS WITH MULTI-LAYERED FOLIAGE STRUCTURE

GENERALLY NESTS IN OLDER FORESTS OF MIXED CONIFER OR PONDEROSA PINE/GAMBEL OAK TYPE, IN  
CANYONS, AND USE VARIETY OF HABITATS FOR FORAGING. SITES WITH COOL MICROCLIMATES APPEAR TO BE  
OF IMPORTANCE OR ARE PREFERRED.

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY:

COCHISE

3/19/97

NAME: NORTHERN APLOMADO FALCON

*FALCO FEMORALIS SEPTENTRIONALIS*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 51 FR 6686, 01-25-86

DESCRIPTION: RUFOUS UNDERPARTS, GRAY BACK, LONG BANDED TAIL, AND A  
DISTINCT BLACK AND WHITE FACIAL PATTERN. SMALLER THAN  
PEREGRINE LARGER THAN KESTREL. BREEDS BETWEEN MARCH- JUNE

ELEVATION

RANGE: 3500-9000 FT.

COUNTIES: COCHISE, SANTA CRUZ

HABITAT: GRASSLAND AND SAVANNAH

SPECIES FORMERLY NESTED IN SOUTHWESTERN US. NOW OCCURS AS AN ACCIDENTAL. GOOD HABITAT HAS  
LOW GROUND COVER AND MESQUITE OR YUCCA FOR NESTING PLATFORMS. CONTINUED USE OF PESTICIDES IN  
MEXICO ENDANGERS THIS SPECIES. NO RECENT CONFIRMED REPORTS FOR ARIZONA.

NAME: SOUTHWESTERN WILLOW FLYCATCHER

*EMPIDONAX TRAILLII EXTIMUS*

STATUS: ENDANGERED

CRITICAL HABITAT: Yes RECOVERY PLAN: No CFR: 60 FR 10694, 02-27-95

DESCRIPTION: SMALL PASSERINE (ABOUT 6") GRAYISH-GREEN BACK AND WINGS,  
WHITISH THROAT, LIGHT OLIVE-GRAY BREAST AND PALE YELLOWISH  
BELLY. TWO WINGBARS VISIBLE. EYE-RING FAINT OR ABSENT.

ELEVATION

RANGE: <8500 FT.

COUNTIES: YAVAPAI, GILA, MARICOPA, MOHAVE, COCONINO, NAVAJO, APACHE, PINAL, LA PAZ, GREENLEE, GRAHAM,  
YUMA, PIMA, COCHISE, SANTA CRUZ

HABITAT: COTTONWOOD/WILLOW & TAMARISK VEGETATION COMMUNITIES ALONG RIVERS & STREAMS

MIGRATORY RIPARIAN OBLIGATE SPECIES THAT OCCUPIES BREEDING HABITAT FROM LATE APRIL TO  
SEPTEMBER. DISTRIBUTION WITHIN ITS RANGE IS RESTRICTED TO RIPARIAN CORRIDORS. DIFFICULT TO  
DISTINGUISH FROM OTHER MEMBERS OF THE EMPIDONAX COMPLEX BY SIGHT ALONE. TRAINING SEMINAR  
REQUIRED FOR THOSE CONDUCTING FLYCATCHER SURVEYS.

NAME: WHOOPING CRANE

*GRUS AMERICANA*

STATUS: ENDANGERED

CRITICAL HABITAT: Yes RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-1967; 43  
FR 20938, 05-15-78

DESCRIPTION: TALLEST AMERICAN BIRD (UP TO 5 FEET) SNOWY WHITE, LONG NECK  
AND LEGS, BLACK WING TIPS, RED CROWN, AND BLACK WEDGE  
SHAPED PATCH OF FETHERS BEHIND ITS EYE.

ELEVATION

RANGE: 4500 FT.

COUNTIES: COCHISE

HABITAT: MARSHES, PRAIRIES, RIVER BOTTOMS

BIRDS IN THE ROCKY MOUNTAIN POPULATION ARE OCCASIONAL VISITORS IN ARIZONA DURING MIGRATION.  
USUALLY NEAR WILCOX PLAYA.

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY:

COCHISE

3/19/97

NAME: SONORA TIGER SALAMANDER

*AMBYSTOMA TIGRINUM STEBBINSI*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 62 FR 665, 01-06-97

DESCRIPTION: 2.6 TO 4.9" SNOUT-VENT LENGTH WITH LIGHT-COLORED BANDS ON A  
DARK BACKGROUND. AQUATIC LARVAE ARE UNIFORM DARK COLOR  
WITH PLUME-LIKE GILLS AND TAIL FINS.

ELEVATION

RANGE: 4000-6300 FT.

COUNTIES: SANTA CRUZ, COCHISE

HABITAT: STOCK TANKS AND IMPOUNDED CIENEGAS IN SAN RAFAEL VALLEY, HUACHUCA MOUNTAINS

ALSO OCCURS IN THE FOOTHILLS OF THE EAST SLOPE OF THE PATAGONIA AND HUACHUCA MOUNTAINS.  
POPULATIONS ALSO ON FORT HUACHUCA.

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY:

COCHISE

3/19/97

PROPOSED TOTAL= 1

NAME: JAGUAR, UNITED STATES POPULATION *PANTHERA ONCA*

STATUS: PROPOSED ENDANGERED CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 59 FR 35674; 7-13-94

DESCRIPTION: MUSCULAR CAT WITH RELATIVELY SHORT, MASSIVE LIMBS AND A DEEP-CHESTED BODY. CINNAMON-BUFF IN COLOR WITH BLACK SPOTS.

ELEVATION

RANGE: <8000 FT.

COUNTIES: COCHISE, PIMA, SANTA CRUZ

HABITAT: IN ARIZONA, RANGED WIDELY THROUGHOUT A VARIETY OF HABITATS FROM SONORAN DESERT TO CONIFER FORESTS

MOST RECORDS ARE FROM THE MADREAN EVERGREEN-WOODLAND, SHRUB-INVADDED SEMI-DESERT GRASSLAND, AND ALONG RIVERS. HISTORIC RANGE IS CONSIDERED TO HAVE EXTENDED BEYOND THE COUNTIES LISTED ABOVE. REPORTS OF INDIVIDUALS IN THE SOUTHERN PART OF THE STATE CONTINUE TO BE RECEIVED. THIS SPECIES IS LISTED AS ENDANGERED FROM THE U.S.-MEXICO BORDER SOUTH. LAST CONFIRMED INDIVIDUAL WAS KILLED IN ARIZONA IN 1991, SINCE THEN UNCONFIRMED SIGHTINGS AND TRACKS CONTINUE TO BE REPORTED.

3/19/97

## CANDIDATE TOTAL= 6

NAME: BLUMER'S DOCK

*RUMEX ORTHONEURUS*

STATUS: CANDIDATE CRITICAL HABITAT: No RECOVERY PLAN: No CFR:

DESCRIPTION: LARGE LONG-LIVED PERENNIAL PLANT IN THE BUCKWHEAT FAMILY  
THAT CAN REACH 1.2-2.0 METERS. LARGE BROAD, OVAL SEMI-  
SUCCULENT LEAVES ARE BRIGHT GREEN. CONSPICUOUS SECONDARY  
VEINS AT RIGHT ANGLES TO THE MIDVEIN

ELEVATION  
RANGE: 6500-9000 FT.

COUNTIES: GILA, COCHISE

HABITAT: MID TO HIGH ELEVATION SPRINGS, STREAMS, &amp; WETLANDS WITH MOIST ORGANIC SOILS OR SHADED CANYONS

NAME: LEMMON FLEABANE

*ERIGERON LEMMONII*

STATUS: CANDIDATE CRITICAL HABITAT: No RECOVERY PLAN: No CFR:

DESCRIPTION: A PROSTRATE PERENNIAL IN THE SUNFLOWER FAMILY. STEMS AND  
LEAVES ARE DENSELY HAIRY. FLOWERS LOOK LIKE SMALL DELICATE  
DAISIES, WITH WHITE TO LIGHT PURPLE OUTER PETALS AND YELLOW  
INNER PETALS.

ELEVATION  
RANGE: 1500-6000 FT.

COUNTIES: COCHISE

HABITAT: GROWS IN DENSE CLUMPS IN CREVICES, LEDGES, AND BOULDERS IN CANYON BOTTOMS IN PINE-OAK WOODLAND

NAME: HUACHUCA SPRINGSNAIL

*PYRGULOPSIS THOMPSONI*

STATUS: CANDIDATE CRITICAL HABITAT: No RECOVERY PLAN: No CFR:

DESCRIPTION: VERY SMALL (1.7-3.2mm) CONICAL SHELL. IDENTIFICATION MUST BE  
VERIFIED BY CHARACTERISTICS OF REPRODUCTIVE ORGANS.

ELEVATION  
RANGE: 4500-6000 FT.

COUNTIES: COCHISE, SANTA CRUZ

HABITAT: AQUATIC AREAS, SMALL SPRINGS WITH VEGETATION SLOW TO MODERATE FLOW.

INDIVIDUALS FOUND ON FIRM SUBSTANCES (ROOTS, WOOD, AND ROCKS)

3/19/97

NAME: MOUNTAIN PLOVER

*CHARADRIUS MONTANUS*

STATUS: CANDIDATE

CRITICAL HABITAT: No RECOVERY PLAN: No CFR:

DESCRIPTION:

ELEVATION

RANGE: 0 FT.

COUNTIES: YUMA, SANTA CRUZ, PIMA, COCHISE

HABITAT:

NAME: CHIRICAHUA LEOPARD FROG

*RANA CHIRICAHUENSIS*

STATUS: CANDIDATE

CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 59 FR 58996

DESCRIPTION: CREAM COLORED TUBERCULES (spots) ON A DARK BACKGROUND ON  
THE REAR OF THE THIGH, DORSOLATERAL FOLDS THAT ARE  
INTERRUPTED AND DEFLECTED MEDIALY, AND A CALL GIVEN OUT OF  
WATER DISTINGUISH THIS SPOTTED FROG FROM OTHER LEOPRD

ELEVATION

RANGE: 3000-8300 FT.

COUNTIES: SANTA CRUZ, APACHE, GILA, PIMA, COCHISE, GREENLEE, GRAHAM, YAVAPAI, COCONINO, NAVAJO

HABITAT: STREAMS, RIVERS, BACKWATERS, PONDS, AND STOCK TANKS THAT ARE FREE FROM INTRODUCED FISH  
AND BULLFROGS

REQUIRE PERMANENT OR NEARLY PERMANENT WATER SOURCES. POPULATIONS NORTH OF THE GILA RIVER ARE  
THOUGHT TO BE CLOSELY-RELATED, BUT DISTINCT, UNDESCRIBED SPECIES.

NAME: RAMSEY CANYON LEOPARD FROG

*RANA SUBAQUAVOCALIS*

STATUS: CANDIDATE

CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 59 FR 58996

DESCRIPTION: LARGE FROG WITH CREAM-COLORED TUBERCULES (spots) ON A DARK  
BACKGROUND ON THE REAR OF THE THIGH. TYPICALLY SPOTTED AND  
GREEN. CALL GIVEN UNDERWATER

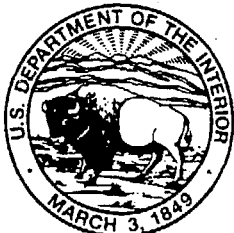
ELEVATION

RANGE: 5000-5700 FT.

COUNTIES: COCHISE

HABITAT: ARTIFICIAL PONDS IN TINKER, BROWN, AND RAMSEY CANYONS ON THE EAST SLOPE OF THE HUACHUCA  
MOUNTAINS.





# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Arizona State Office  
222 North Central Avenue  
Phoenix, AZ 85004-2203

In reply refer to:

1600 (932)

May 22, 1997

Mr. Ronald D. Schreier  
Gannett Fleming, Inc.  
3001 East Camelback Road  
Suite 130  
Phoenix, AZ 85016-8817

Dear Mr. Schreier:

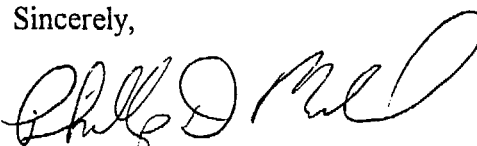
Thank you for the opportunity to comment on the Bisbee-Douglas International Airport Master Plan. The Bureau of Land Management feels that future construction at the airport will have little impact on public lands.

For further guidance in this planning process, contact the Aeronautics Division of the Arizona Department of Transportation.

Please keep us informed as this planning process develops.

Contact this office at (602) 417-9513 if we can be of further assistance.

Sincerely,

  
For Michael A. Ferguson  
Deputy State Director  
Resources Division





# COCHISE COUNTY

## DEPARTMENT OF FACILITIES AND SOLID WASTE MANAGEMENT

1415 W. Melody Lane, Bldg. C • Bisbee, Arizona 85603-3090

Facilities Management  
Telephone: (520) 432-9426  
Fax: (520) 432-9423

BRUCE N. SPRINGER  
DIRECTOR

Solid Waste Management  
Telephone: (520) 432-9479  
Fax: (520) 432-9423

May 21, 1997

Ronald D. Schreier, P.E., Project Manager  
Gannett Fleming, Inc.  
300 East Camelback Road, Suite 130  
Phoenix, AZ 85016-4498

RE: Bisbee-Douglas International Airport

Dear Mr. Schreier:

In response to your letter dated May 14, 1997, the following information is provided.

- There are no existing or proposed County solid waste facilities within 10,000 feet of any of the existing or proposed runways at the Bisbee-Douglas International Airport.
- There are no County-owned/operated solid waste disposal facilities located within a five-mile radius of the Bisbee-Douglas International Airport.
- The closest County-owned/operated solid waste disposal facility is the Douglas Solid Waste Transfer Station located approximately nine miles south of the Bisbee-Douglas International Airport.
- The closest County-owned/operated sanitary landfill is the Cochise County Eastern Regional Landfill located approximately 20 miles north of the Bisbee-Douglas International Airport.

Should you have further questions or require additional information, please call me.

Sincerely,

COCHISE COUNTY

Bruce N. Springer, Director  
Department of Facilities and Solid Waste Management

BNS:bgm

C:\BRUCE\GANNETT.BDI



June 12, 1997

**Exhibit 5**

Ronald D. Schreier, Project Manager  
Gannett Fleming, Inc.  
3001 E. Camelback Road, Suite 130  
Phoenix, Arizona 85016-4498

RE: Cochise County; Bisbee-Douglas International Airport Master Plan; Cochise County and FAA

Dear Mr. Schreier,

Thank you for consulting our office regarding the preparation of the above-referenced master plan. I have reviewed the information submitted and offer the following comments, as you requested, concerning applicable environmental laws and permits.

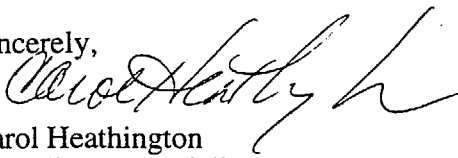
1. Your information packet includes information and maps describing the existing facility and proposed development. As you know, the site includes the former Douglas Army Airfield, and the original facility was built by the Department of Commerce in the 1930s. Some extant features of the site may qualify for inclusion on the Arizona or National Register of Historic Places.

2. Several state and federal laws concerning historic preservation may apply to the proposed development. For example, National Historic Preservation Act (NHPA) and the National Environmental Policy Act (NEPA), may apply if any aspect of the planning or development process involves a permit or license from a federal agency such as FAA, federal funding, or loan guarantee. Both of those laws require the agency (and thus the permit, license, or grant applicant) to consider the impact of the project on cultural resources (for example: archaeological sites, historic buildings and structures, and places of cultural significance to Native Americans). Likewise, the State Historic Preservation Act applies to lands owned or controlled by the State of Arizona, and projects funded or permitted by state agencies. All of these laws require the agencies involved to consult with this office in the process of identifying cultural resources and considered impacts to those resources. State law also covers the discovery of archaeological and human remains on county and municipal lands and their subsequent treatment, and the accidental or intentional disturbance of human remains and funerary objects on private land.

Thus, an important part of the planning process should be the identification of cultural resources within the development area, including lands to be acquired or leased. Our records indicate that the area in question has never been surveyed in order to locate and identify significant cultural resources. You may wish to discuss issues relating to early airfield development with William Collins, SHPO architectural historian; he can be reached at (602) 542-7159.

If you have questions after you review this information, or if you need additional information about particular aspects of the review process, please call me at (602) 542-7137 or 542-4009.

Sincerely,

  
Carol Heathington  
Compliance Specialist  
State Historic Preservation Office

  
Arizona State Parks

Fife Symington  
Governor

STATE PARKS  
BOARD MEMBERS

Chairman  
Joseph H. Holmwood  
Mesa

Members  
Ruth U. Patterson  
St. Johns

Sheri J. Graham  
Sedona

Vernon Roudebush  
Safford

Walter D. Armer, Jr.  
Benson

William G. Roe  
Tucson

J. Dennis Wells  
State Land  
Commissioner

Kenneth E. Travous  
Executive Director

Charles R. Eatherly  
Deputy Director

1300 West Washington  
Phoenix, Arizona 85007

Tel & TTY: 602-542-4174  
<http://www.pr.state.az.us>

General Fax:  
602-542-4180

Director's Office Fax:  
602-542-4188



## ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Fife Symington, Governor

Russell F. Rhoades, Director

GANNETT FLEMING  
3001 E. CAMBELBACK RD., STE 130  
PHOENIX, AZ 85016

May 15, 1997

Dear Sir:

The project information to be reviewed by the Engineering Review DESK/ADEQ was received on:

DATE: May 13, 1997

FILE NAME: BISBEE-DOUGLAS INTERNATIONAL AIRPORT MASTER PLAN

FILE NUMBER: 970207

Please reference all correspondence and/or status calls to the above file name and number. Please allow 30 days from the date of submittal before inquiring on project status.

Thank You.

Sincerely,

**HELEN I. NYBERG**

Engineering Review Desk  
Water Quality Division  
Phone: (602) 207-4677  
Toll free: 1-800-234-5677



**ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY**

Fife Symington, Governor

Russell F. Rhoades, Director

ERP:97-0425

June 11, 1997

Ronald D. Schreier  
Gannett Fleming, Inc.  
Suite 130  
3001 East Camelback Rd.  
Phoenix, AZ 85016-4498



RE: Courtesy Review: Bisbee-Douglas International Airport Master Plan, ADEQ Engineering Review File No. 970207

Dear Mr. Schreier:

This is in response to your letter of May 7, 1997. Your material has been assigned the file name Bisbee-Douglas International Airport, and the file number 970207. Please reference all future correspondence to the file name and number.

The NPDES Storm Water Permit

Normally all construction activities including clearing, grading, and excavation activities that result in the disturbance of five acres or more of total land area are required to obtain a storm water permit. Disturbances of less than five acres are also required to obtain a storm water permit if they are part of a larger common plan of development or sale.

However, from the information you submitted it would seem that the owner or operator of the construction project may be a small municipality of less than 100,000 in population. For example, Bisbee, Douglas, or Cochise County. If this is the case, then the Intermodal Transportation Act of 1991 presently exempts construction operations, owned or operated by small municipalities, from the necessity of submitting an application for the discharge of storm water runoff. Because this exemption does not extend to airports, powerplants, or uncontrolled sanitary landfills, the operator of the airport must apply for a storm water permit before

the commencement of airport activities. Should you have any questions on the NPDES storm water program, please call Robert Wilson at 602-207-4574.

The Clean Water Act Section 404 Permit


If the construction activity involves channelization or the movement of earth in a waters of the U.S., then the activity may require a "404" permit. The 404 permit is issued by the Corps of Engineers for earth moving activities within a Water of the United States. For additional information on this permit please contact the U.S. Army Corps of Engineers, Regulatory Branch at 3636 N. Central Ave., Suite #760, Phoenix, Arizona 85012-1936. Their phone number is 602-640-5385.

Air Quality: Asbestos Renovation and Demolition

Several times your material mentions asbestos containing materials. If this is the case you should contact the ADEQ National emission Standards for Hazardous Air Pollutants (NESHAP) Coordinator, Air Quality Division, Compliance Section at our address. Alternatively, you may call at 602-207-2333.

There may be other environmental permits that may be applicable to your project. To assist you in determining the permits, a copy of ADEQ's Permits Handbook is enclosed with this letter. If I can be of any further assistance, please call me at 602-207-4440.

Sincerely,



Edwin K. Swanson, P.E., Manager  
Wastewater Construction &  
Federal Permits Unit

EKS/RW/klc



## Exhibit 8



United States  
Department of  
Agriculture

Natural  
Resources  
Conservation  
Service

3003 N. Central Ave.  
Suite 800  
Phoenix, AZ  
85012-2945

Mr. Ronald D. Schreier, P.E.  
Project Manager, Gannett Fleming, Inc.  
3001 East Camelback Road  
Phoenix, Arizona 85016-4498

Dear Mr. Schreier:

This is in response to your letter, dated May 20, 1997, regarding the airport master planning work being done for the Bisbee-Douglas International Airport in Cochise County, Arizona.

The Natural Resources Conservation Service (NRCS), has general leadership responsibility, nationwide, for implementing the Farmland Protection Policy Act (FPPA). The FPPA is a national policy requiring federal agencies to assess the impact of their programs on farmland, so that farmland is not unnecessarily converted to non-agricultural uses. The FPPA requires that federal agencies submit an AD-1006 form (called a "Farmland Conversion Impact Rating Form") to the appropriate NRCS office when a federally sponsored program or project contributes either directly or indirectly to the conversion of important farmland to non-agricultural uses. This form is not a request for permission to convert farmland; it serves chiefly to gather, evaluate, and report information related to the impacts of a proposed conversion on important farmland. When the form AD-1006 is submitted to us, we make a determination of important farmland and the projects potential impact by gathering all the necessary data, complete the form and return our report to the project or program agency. The federal agency submitting the form must complete the appropriate parts of the AD-1006 along with necessary maps or project information.

Any federal involvement in the project, including financial or technical assistance, licensing or approval, issuance of permits for any associated activity (including issuance of a permit by a state agency under a federal delegation of authority), will require that the subject project comply with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C 470f) (the Act). Basically, Section 106 requires that any federal or federally assisted undertaking be reviewed for its effects on significant archaeological and historic properties. If any effects are found, the President's Advisory Council on Historic Preservation is entitled to comment.

Although responsibility for compliance with Section 106 rests with the federal agency providing the assistance, Section 110(g) of the Act allows the federal agency to charge "reasonable costs" to the licensee or permittee as a condition of getting the license or permit. This generally means that the applicant pays for an archaeological assessment by a professional. The assessment is carried out according to the provisions of Title 36, Part 800 of the Code of Federal Regulations, and in consultation with the State Historic Preservation Officer. In Arizona, this is:

James Garrison, State Historic Preservation Officer  
Arizona State Parks  
1300 West Washington  
Phoenix, AZ 85007  
(602) 542-4009

- more -

Schreier, R.D.

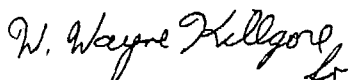
June 17, 1997

NRCS has a list of qualified archaeological contractors if Gannet Fleming wants a copy. The other major historic preservation laws, for example the Archaeological Resources Protection Act of 1979 and the Native American Graves Protection and Repatriation Act of 1990, only apply to federal and Indian land. The American Indian Religious Freedom Act will only be triggered if the project will affect sites of sacred or religious significance to Indians. In all likelihood, Section 106 will be the only law that will have to be addressed.

In terms of wetlands and riparian areas we recommend avoiding any wetlands. Riparian vegetation should be avoided to the extent possible. A 404 permit from the Army Corps of Engineers (COE) will be needed if there are any wetlands in the construction areas that will be filled or have fill removed from them or have water cut-off that recharges the wetland. An on-site investigation would be made to determine the occurrence or absence of hydric soils. Additionally, the soils in the area of Bisbee and Douglas tend to have high natural concentrations of gypsum and/or sodium. The gypsum can be caustic to concrete and can lead to deterioration without special precautions being taken. Storm sewers as well as septic systems could fail causing severe environmental consequences. These gypsum soils can also have settling problems once saturated with water. Again special precautions need to be taken.

Should your office need further information, please feel free to contact Community Assistance Coordinator, Jeff Schmidt in Phoenix at 602-280-8818 who can easily put you in contact with the appropriate resource personnel.

Sincerely,

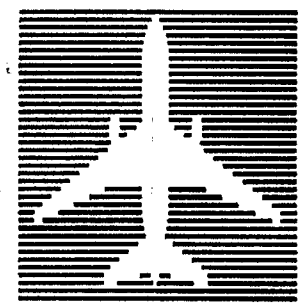
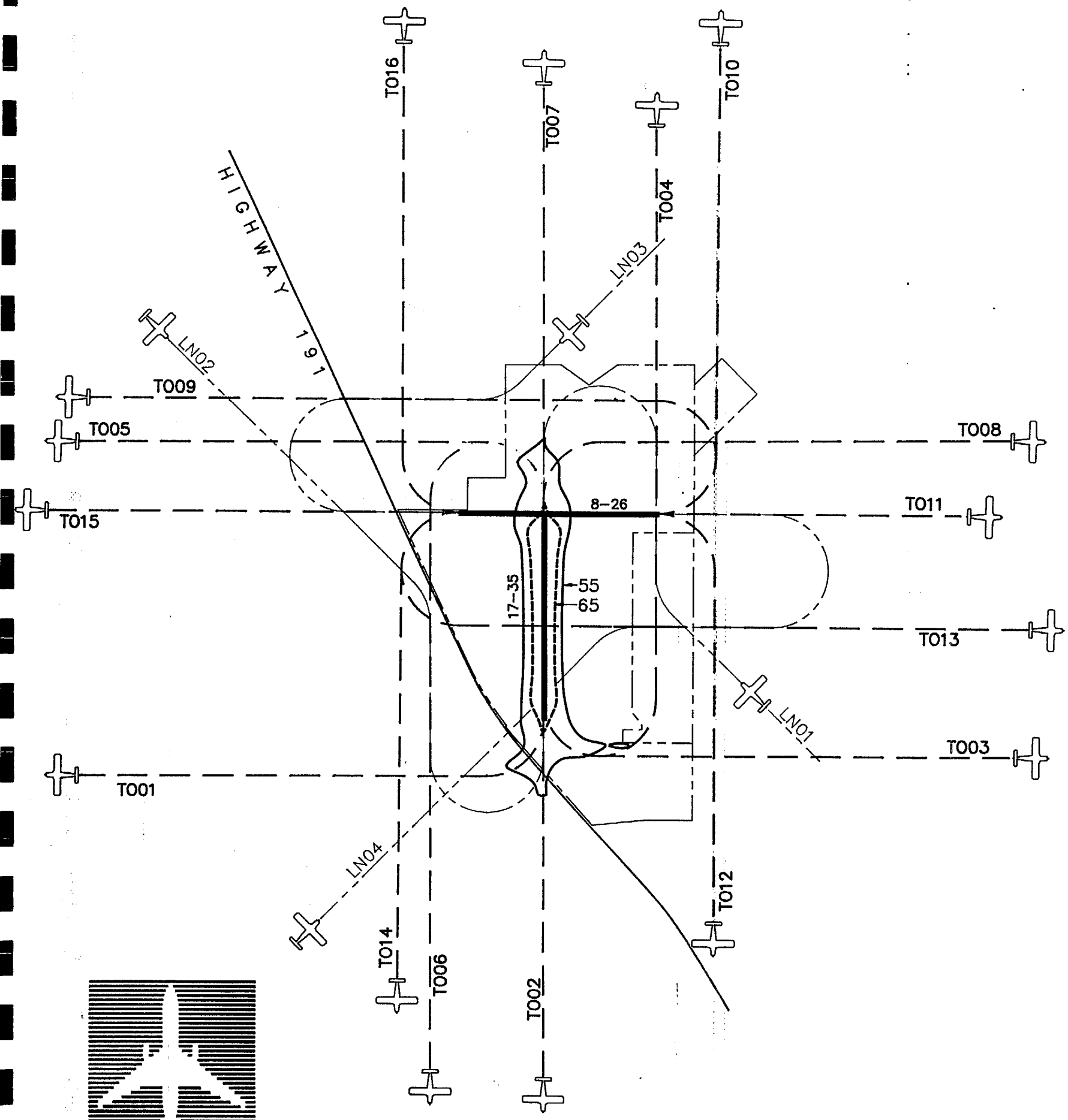


MICHAEL SOMERVILLE  
State Conservationist

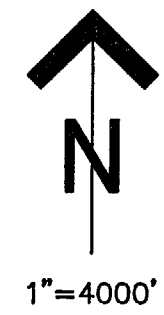
cc:

Jim Briggs, Assistant State Conservationist-Technology, NRCS, Phoenix, AZ  
Steve Barker, State Range Conservationist, NRCS, Phoenix, AZ  
Dave Seery, State Wildlife Biologist, NRCS, Phoenix, AZ  
Jeff Schmidt, Community Assistance Coordinator, NRCS, Phoenix, AZ  
Robert Wilson, Resource Soil Scientist, NRCS, Phoenix, AZ  
Gary Navarre, Cultural Resources Specialist, NRCS, Phoenix, AZ





May 27, 1997



### NOTES

NOISE EXPOSURE CONTOURS COMPUTED USING THE INM v5.1 AND THE FOLLOWING DATA PARAMETERS:

AVERAGE PEAK DAILY OPERATIONS = 10

RUNWAY USE ASSUMED AS FOLLOWS:  
17=50% 35=40% 8=5% 26=5%

LANDING TRACKS BASED ON APPROXIMATE STANDARD TRAFFIC PATTERNS FOR UNCONTROLLED FIELD.

ALL RUNWAYS HAVE LEFT TRAFFIC PATTERNS.

TOTAL YEAR 1997 ANNUAL OPERATIONS = 3,285

#### ACTIVITY BY TYPE (PERCENT OF TOTAL ACTIVITY):

FIXED-WING PISTON (COMSEP) *	60.50%
FIXED-WING PISTON TWIN (BEC58P)	14.44%
LARGE BUSINESS JET (COMJET)	1.86%
SMALL TURBOPROP (DHC-6)	1.86%
LARGE TURBOPROP (SF340)	1.86%
SMALL TURBOPROP (CNA441)	7.44%
SMALL BUSINESS JET (LEAR25)	5.58%

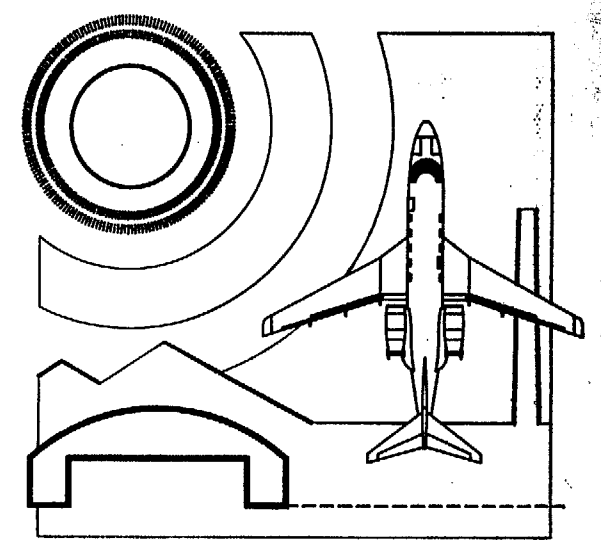
\* INCLUDES ULTRALIGHTS

#### ROTORCRAFT ASSUMPTIONS:

PISTON ROTORCRAFT (GASEPV)	4.02%
TURBINE ROTORCRAFT (CIT3)	2.44%

IT WAS ASSUMED THAT ROTORCRAFT WILL USE THE FIXED-WING OPERATIONS AREAS. FIXED-WING TYPES WERE ASSUMED TO REPRESENT ROTORCRAFT.

DAYLIGHT ACTIVITY	80%
EVENING ACTIVITY	15%
NIGHT ACTIVITY	5%

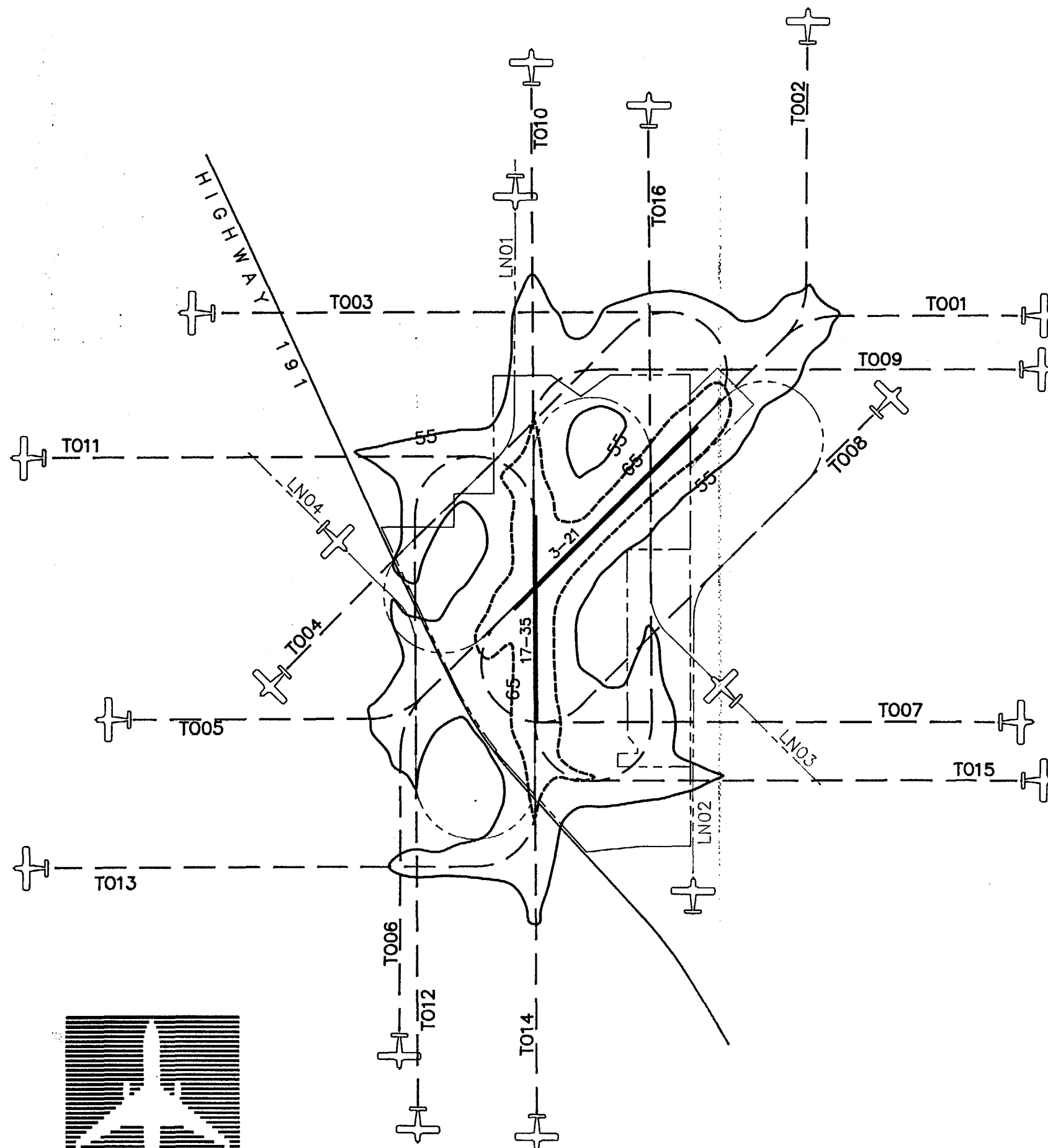


## BISBEE-DOUGLAS INTERNATIONAL AIRPORT

- T015 — INDICATES TAKEOFF TRACK
- LN02 — INDICATES LANDING TRACK
- 65 — INDICATES 65 DNL CONTOUR
- 55 — INDICATES 55 DNL CONTOUR
- INDICATES AIRPORT PROPERTY

## Year 1997 Noise Exposure Analysis

Figure 8-1



### NOTES

NOISE EXPOSURE CONTOURS COMPUTED USING THE INM v5.1 AND THE FOLLOWING DATA PARAMETERS:

AVERAGE PEAK DAILY OPERATIONS = 141

RUNWAY USE ESTIMATED BY REFERENCE TO WIND DATA: 03=26.14% 21=24.42% 17=24.74% 35=24.70%

LANDING TRACKS BASED ON APPROXIMATE STANDARD TRAFFIC PATTERNS FOR UNCONTROLLED FIELD.

ALL RUNWAYS WILL HAVE LEFT TRAFFIC PATTERNS.

TOTAL YEAR 2016 ANNUAL OPERATIONS = 45,556

### ACTIVITY BY TYPE (PERCENT OF TOTAL ACTIVITY):

FIXED-WING PISTON (COMSEP) *	68.66%
FIXED-WING PISTON TWIN (BEC58P) .....	16.97%
LARGE BUSINESS JET (COMJET) .....	0.85%
SMALL TURBOPROP (DHC-6) .....	0.85%
LARGE TURBOPROP (SF340) .....	0.85%
SMALL TURBOPROP (CNA441) .....	3.40%
SMALL BUSINESS JET (LEAR25) .....	2.55%

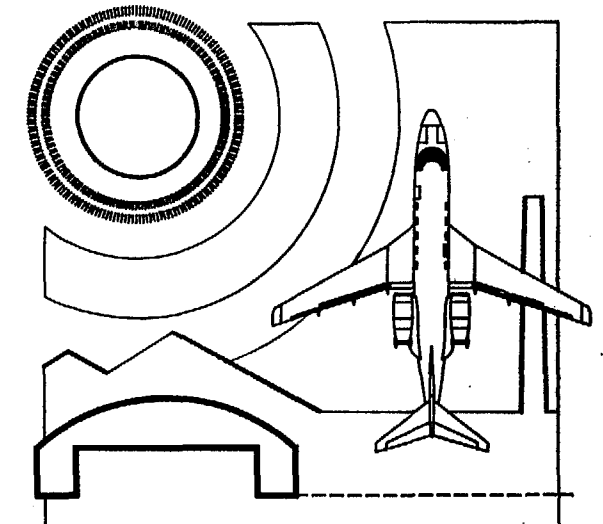
\* INCLUDES ULTRALIGHTS

### ROTORCRAFT ASSUMPTIONS:

PISTON ROTORCRAFT (GASEPV) .....	1.22%
TURBINE ROTORCRAFT (CIT3) .....	4.65%

IT WAS ASSUMED THAT ROTORCRAFT WILL USE THE FIXED-WING OPERATIONS AREAS. FIXED-WING TYPES WERE ASSUMED TO REPRESENT ROTORCRAFT.

DAYLIGHT ACTIVITY .....	80%
EVENING ACTIVITY .....	15%
NIGHT ACTIVITY .....	5%



**BISBEE-DOUGLAS  
INTERNATIONAL AIRPORT**

- T015 — INDICATES TAKEOFF TRACK
- LN02 — INDICATES LANDING TRACK
- 65 — INDICATES 65 DNL CONTOUR
- 55 — INDICATES 55 DNL CONTOUR
- — INDICATES AIRPORT PROPERTY

**Year 2016  
Noise Exposure  
Analysis**

**Figure 8-2**

May 27, 1997